CLAIMS

What is claimed is:

1.   A method comprising:

receiving at a discovery engine identification of a domain of interest and identification of a seed router within the domain of interest;

the discovery engine querying the seed router for information including identification of its peer routers;

receiving at the discovery engine the information from the seed router;

from the information received from the seed router, the discovery engine determining at least one peer router of the seed router;

the discovery engine querying the at least one peer router for information including identification of its peer routers; and

the discovery engine compiling topology information for the routers within the domain of interest.

2.   The method of claim 1 wherein the routers comprise said information including identification of their respective peer routers.

3.   The method of claim 2 wherein the routers are routers that communicate via a common protocol.

4.   The method of claim 3 wherein the common protocol comprises Border Gateway Protocol (BGP).

5.   The method of claim 1 wherein the routers comprise intradomain and interdomain routers.

6.   The method of claim 1 further comprising:

receiving at said discovery engine access information for the seed router.

7.   The method of claim 6 wherein said access information comprises an SNMP community string.

8.   A Border Gateway Protocol (BGP) router discovery engine comprising:

computer-executable software code stored to a computer-readable medium, the computer-executable software code comprising code for querying a seed BGP router within a domain of interest for information from its peer table, code for receiving the peer table information from the seed BGP router, code for determining from the peer table information received from the seed BGP router each peer router of the seed router, code for querying each peer router of the seed router for information from its respective peer table; and

a processor for executing the computer-executable software code.

9.   The BGP router discovery engine of claim 8 comprising:

code for receiving identification of said router, identification of said domain of interest, and access information for said seed BGP router.

10.   The BGP router discovery engine of claim 8 comprising:

code for using the peer table information received from the queried routers for compiling topology information for the BGP routers within the domain of interest.

11.   The BGP router discovery engine of claim 10 wherein said topology information comprises:

identification of interfaces of each BGP router within said domain of interest, identification of all peer routers of each BGP router within said domain of interest, and indication of state of each BGP router within said domain of interest.

12.   The BGP router discovery engine of claim 10 wherein said topology information includes information only for BGP-speaking devices.

13.   The BGP router discovery engine of claim 8 further comprising:

code for identifying from the peer table information received from a queried BGP router any newly discovered peer router not yet queried for its peer table information; and

code for querying said newly discovered peer router for information from its peer table.

14. A system comprising:

means for recursively querying identified BGP routers within a domain of interest for their respective peer tables and identifying from their respective peer tables their respective peer BGP routers within the domain of interest; and

means for compiling from the information received from the queried BGP routers a topology of the BGP routers within the domain of interest.

15. The system of claim 14 wherein said means for recursively querying identified BGP routers receives identification of a seed router within the domain of interest and begins said recursively querying by querying the seed router for information from its peer table.

16. The system of claim 14 wherein said means for compiling compiles said topology only for BGP routers within the domain of interest; and wherein said topology information comprises identification of interfaces of each BGP router within said domain of interest, identification of all peer routers of each BGP router within said domain of interest, and indication of state of each BGP router within said domain of interest.

17. The system of claim 14 wherein said means for recursively querying comprises:

means for identifying from the peer table received from a queried BGP router any newly discovered peer router not yet queried for its peer table; and

means for querying said newly discovered peer router for its peer table.

18.   A method for discovering Border Gateway Protocol (BGP) routers within a domain of interest, the method comprising:

receiving at a discovery engine identification of the domain of interest and identification of a seed BGP router within the domain of interest;

the discovery engine querying the seed BGP router for its peer table;

receiving at the discovery engine the peer table from the seed BGP router;

from the seed BGP router's peer table, the discovery engine determining each peer BGP router of the seed BGP router;

the discovery engine querying each peer BGP router of the seed BGP router for its respective peer table;

receiving at the discovery engine the peer table from each queried peer BGP router;

from each queried peer BGP router's peer table, the discovery engine determining each peer BGP router of the queried peer BGP router; and

the discovery engine compiling, from the received information from each queried BGP router, topology information including identification of the BGP routers within the domain of interest and their relationships.

19.   The method of claim 18 further comprising:

receiving at said discovery engine access information for the seed BGP router.

20.   The method of claim 18 wherein said domain of interest includes at least one autonomous system.